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EMETIN IN AMEBIC DYSENTERY.

By JOHN M. HOLT, Surgeon, United States Public Health Service.

Amebic dysentery is endemic in the United States. It has increased and become more widespread in the last 10 years. Reports to the Surgeon General of the Public Health Service show its presence in numerous localities in the United States. It has been reported in California, Oregon, Washington, Idaho, Georgia, Arkansas, Indiana, Ohio, Massachusetts, Maryland, Pennsylvania, Michigan, Illinois, North Carolina, Texas, Alabama, and New York, as well as in Porto Rico, Hawaii, Canal Zone, and the Philippines. Reports of other observers indicate the presence of the disease in a number of other localities. A disease of this character, readily transmissible, conveyed in food and drink, and known to be spreading, is of particular public-health interest.

Reports are at hand from 17 officers of the United States Public Health Service relative to the use of emetin, and none is unfavorable.

Prior to the introduction of the use of emetin, no particular line of medical treatment had proven of permanent value in a large percentage of cases. With the experience, borne out by other observers who maintained microscopical stool examinations of patients for long periods after improvement under medical treatment, the claims of "cures" by various reporters have been received with respectful misgivings. In all such reports of cures careful search has been made for definite statements as to how long and how often microscopical stool examinations had been made after clinical symptoms had subsided. In a great many cases no subsequent microscopical stool examination was reported. In others a few examinations were noted, covering a relatively short period after apparent "cure." In only a small percentage of these reports are definite statements made of the use of the microscope for considerable periods after cessation of treatment.

In a large percentage of reports of various forms of treatment there appear statements to the effect that all symptoms subsided in a few weeks or a few months and the case was dismissed. What becomes of these cases afterwards? Practitioners who have treated many cases of amebiasis commonly get a history, at times covering several years, of numerous acute attacks treated by numerous physicians in as many sections of the country, following which the patient "seemed to get better," only to be again followed by still another acute attack (or attacks). It is not at all unreasonable to suppose, in the light of repeated experiences, that some of these treatments, by which the patient was apparently relieved of his clinical symptoms,

might have been reported in good faith as examples of the efficacy of this or that line of treatment.

Amebiasis tends markedly toward chronicity. Its treatment should be checked by the use of the microscope. Many of the patients are of a wandering class and when improved or relieved after an acute exacerbation are lost sight of and periodical microscopical examination of the discharges becomes impossible.

I have nine cases to report in which emetin was used, six under personal observation and three reported by other officers of the Public Health Service. In all of my cases the results were favorable, and I believe that in emetin we have our most powerful weapon in the fight to control amebiasis.

Microscopical examination was made before and after each injection, and as a rule weekly after cessation of injections. Some cases returned for observation after being discharged. All were urged to do so. One case remained under continuous observation nearly four months. The longest period of observation since first treatment was one year. The clinical effect is brilliant and gratifying, but an *amebæ* still persisted in the stools after all clinical symptoms had disappeared.

I have not seen a case in which *amebæ* could not be demonstrated after treatment. There would be a marked diminution in the relative number of *amebæ* after treatment, most of which were non-motile.

While emetin may give good clinical results, the patient remains a source of possible danger to others as well as to himself. He should not be dismissed as cured, believing himself harmless. As an *ameba* carrier he is more or less of a menace, and comparable to typhoid carriers. Vedder¹ writes:

* * * it is impossible to state at present that patients treated by emetin will remain permanently cured, yet the prospects of obtaining permanent cures by this method are encouraging.

Dopter² states:

It (emetin) does not prevent relapses. Of the 46 cases, 10 have already relapsed. Two cases in 30 days, 3 after 3 months, 5 after 4 to 6 months. These relapses yield easily to a second treatment of emetin.

The writer has had one relapse out of six cases.

For its effect on the remaining *amebæ*, it might be good practice to give an injection of emetin once a month or once in two months after controlling the acute attack. What I feel should be emphasized is that after giving emetin in a case of amebiasis, that case should not be considered a closed chapter and no further attention paid to it.

¹ Vedder: Jour. A. M. A., Feb. 14, 1914.

² Dopter: Bull. de l'Acad. de med., Paris, 1913, LXX-442.

In view of the commonly accepted idea that emetin administered subcutaneously or intravenously reaches only the amebæ in the intestinal canal, the writer suggests the internal administration of salol-coated pills of emetin given at the same time as the injections are given, thereby reaching the offending organism by both avenues, the blood stream and the intestinal tract. In the interests of economy, the tablet triturates of emetin hydrochloride would be less expensive than the ampoules of emetin in normal saline.

In the matter of dosage, the amount originally recommended, 0.02 gram ($\frac{1}{50}$ grain), will at times be found ineffectual. The writer prefers beginning with 0.03 gram ($\frac{1}{30}$ grain) hypodermatically, three times a day if necessary, which may be increased so the patient will receive 0.18 or 0.24 gram (3 or 4 grains) in 24 hours, depending upon the severity of the infection and the needs of the individual case. The writer has observed a marked decrease in the amount of urine excreted during the administration of emetin, a circumstance he has not seen mentioned by other reporters.

SCHOOL HYGIENE.

A REPORT OF A SANITARY SURVEY OF SCHOOLS AND OF MEDICAL INSPECTION OF SCHOOL CHILDREN IN CERTAIN SECTIONS OF NORTH AND SOUTH CAROLINA.

By A. D. FOSTER, Passed Assistant Surgeon, United States Public Health Service.

As a part of the systematic investigation of school hygiene being made by the service in different parts of the country, a sanitary survey of schools and a medical inspection of school children was undertaken in certain sections of North and South Carolina. A total of 107 white and 16 colored schools were visited, and 14,119 white and 2,327 colored children examined.

In the mountainous sections of North and South Carolina a special feature of the work was the investigation to determine the prevalence of trachoma among school children, while in the lowland section of South Carolina, in addition to the trachoma inspection, particular attention was given to those conditions which frequently occur in children of a school age and which, if uncorrected, are a detriment to the health of the child and to its progress in school work.

Sanitary Conditions of Schools.

In the larger cities visited, most of the schools were found to be of modern construction, special attention having been given to the heating, lighting, and ventilation of the school buildings. The sanitary conditions of the buildings in the larger communities were as a rule good, and the importance of the sanitary drinking fountain in place of the common drinking cup was generally recognized.